CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/W.No10/KD/CSR-06/070a/CEMENT/2016-17 Date: 22.06.2016

TEST REPORT ON CEMENT

* CUSTOMER	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
*AGENCY	:	**Mr. K. Devaraju,** Kothanur (P), Sidlaghatta (T), Chikkaballapura - 105.
*NAME OF THE WORK	:	Maintenance of Drilled BBMP borewells in Ward No. 10, (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bangalore.
REFERENCE	:	EE/BTP/BBMP/E-PMT/86/2016-17 Dated: 26.02.2016
SAMPLE ID	:	Cement
SAMPLE RECEIVED ON	:	20.06.2016
PERIOD OF TESTING	:	20.06.2016 to 22.06.2016

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988(RA-2009)	29.00 %	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988(RA-2009)	140 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988(RA-2009)	480 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988(RA-2009)	1 mm	Not more than 10mm

*Information is furnished by the Customer/Representative.

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Job No.: CTCE/BBMP/W.No10/KD/CSR-06/070a/SAND-Gradation/2016-17 : 22.06.2016

TEST REPORT ON DETERMINATION GRADATION OF FINE AGGREGATES

*** Customer** : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. K. Devaraju,**
Kothanur (P), Sidlaghatta (T), Chikkaballapura - 105.

*** Name of Work** : Maintenance of Drilled BBMP borewells in Ward No. 10, (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bangalore.

Reference : EE/BTP/BBMP/E-PMT/86/2016-17 Dated: 26.02.2016

Technical Reference : IS : 2386 Part 1 - 1963 RA-2007

Sample ID : Fine Aggregates

Sample Received on : 20.06.2016

Date of Testing : 22.06.2016

Total Wt. of Aggregates in gms **1000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Spec.Limits as per IS 383-1970 (RA- 2007)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	92.76	90-100	90-100	90-100	95-100
2.36	77.03	60-95	75-100	85-100	95-100
1.18	49.57	30-70	55-90	75-100	90-100
600 Micron	19.92	15-34	35-59	60-79	80-100
300 Micron	8.39	5-20	8-30	12-40	15-50
150 Micron	3.01	0-10	0-10	0-10	0-15

* Information is furnished by the Customer/Representative

Remarks : This sample is under Zone-I specific limits.

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Job No.: CTCE/BBMP/W.No10/KD/CSR-06/070a/AGG/GR/2016-17 : 22.06.2016

TEST REPORT ON COARSE AGGREGATES

*** Customer** : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. K. Devaraju,**
Kothanur (P), Sidlaghatta (T), Chikkaballapura - 105.

*** Name of Work** : Maintenance of Drilled BBMP borewells in Ward No. 10, (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bangalore.

Reference : EE/BTP/BBMP/E-PMT/86/2016-17 Dated: 26.02.2016

Technical Reference : IS : 2386 Part 1 -1963 RA-2007

Sample ID : Coarse Aggregates (40mm)

Sample Received on : 20.06.2016

Date of Testing : 22.06.2016

Total Wt. of Aggregates in gms= **7000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Spec.Limits as per IS 383-1970 (RA- 2007)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	96.49	95-100	85-100
20	33.84	30-70	0-20
10	14.68	10-35	0-5
4.75	2.07	0-5	-

* Information is furnished by the Customer/Representative

Remarks : This sample is under Graded specific limits.

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Job No.: CTCE/BBMP/W.No10/KD/STEEL/2016-17 22.06.2016

TEST REPORT ON REINFORCEMENT STEEL

Customer : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

Agency : **Mr. K. Devaraju,** Kothanur (P), Sidlaghatta (T), Chikkaballapura - 105.

Name of the Work : Maintenance of Drilled BBMP borewells in Ward No. 10, (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bangalore.

Reference : EE/BTP/BBMP/E-PMT/86/2016-17 Dated: 26.02.2016

Date of Test : 22.06.2016

Technical Reference : IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm^2	Tensile strength (Ultimate stress) N/mm^2	Elongation percent gauge length		
1	10	0.62	514	557	13.30	O.K	O.K

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T-2377

Job No.: CTCE/BBMP/W.No10/KD/CSR-06/070a/CUBE/2016-17

23.07.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

*** Customer** : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. K. Devaraju,**
Kothanur (P), Sidlaghatta (T), Chikkaballapura - 105.

*** Name of the work** : Maintenance of Drilled BBMP borewells in Ward No. 10, (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bangalore.

Reference : EE/BTP/BBMP/E-PMT/86/2016-17 Dated: 26.02.2016

*** Sample ID** : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : M_{15}

Compressive Strength as on : 28^{th} day

Sample Received on : 23.07.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	25.06.2016	23.07.2016	8.125	362.8	16.12
2	25.06.2016	23.07.2016	8.216	393.5	17.49
3	25.06.2016	23.07.2016	8.354	381.4	16.95

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T-2377

Job No.: CCTCE/BBMP/W.No10/KD/CSR-06/070a/CUBE/2016-17 25.07.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	: **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	: **Mr. K. Devaraju,** Kothanur (P), Sidlaghatta (T), Chikkaballapura - 105.
* Name of the work	: Maintenance of Drilled BBMP borewells in Ward No. 10 (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bangalore.
Reference	: EE/BTP/BBMP/E-PMT/86/2016-17 Dated: 26.02.2016
* Sample ID	: Cement Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
* Grade of Concrete	: M_{20}
Compressive Strength as on	: 28^{th} day
Sample Received on	: 25.07.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	27.06.2016	25.07.2016	8.254	475.4	21.13
2	27.06.2016	25.07.2016	8.369	483.9	21.51
3	27.06.2016	25.07.2016	8.412	504.7	22.43

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Job No.: CCTCE/BBMP/W.No10/KD/CSR-06/070a/CUBE/2016-17 25.07.201

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

*** Customer** : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. K. Devaraju,**
Kothanur (P), Sidlaghatta (T), Chikkaballapura - 105.

*** Name of the work** : Maintenance of Drilled BBMP borewells in Ward No. (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bangalore.

Reference : EE/BTP/BBMP/E-PMT/86/2016-17 Dated: 26.02.2016

*** Sample ID** : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : M_{20}

Compressive Strength as on : 28^{th} day

Sample Received on : 25.07.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm²)
1	27.06.2016	25.07.2016	8.176	495.8	22.04
2	27.06.2016	25.07.2016	8.063	489.3	21.75
3	27.06.2016	25.07.2016	8.142	477.6	21.23

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Job No.: CCTCE/BBMP/W.No10/KD/CSR-06/070a/CUBE/2016-17 25.07.20

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

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*** Agency** : **Mr. K. Devaraju,**
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*** Name of the work** : Maintenance of Drilled BBMP borewells in Ward No. (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bang. lore.

Reference : EE/BTP/BBMP/E-PMT/86/2016-17 Dated: 26.02.2016

*** Sample ID** : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : M_{20}

Compressive Strength as on : 28^{th} day

Sample Received on : 25.07.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	27.06.2016	25.07.2016	8.086	476.8	21.19
2	27.06.2016	25.07.2016	8.132	481.5	21.40
3	27.06.2016	25.07.2016	8.215	495.6	22.03

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